FEMS Microbiology Letters

AUTHOR INDEX VOLUME 61

Ab, G., see Bruinenberg, P.G. (61) 11
Abe, K., see Arai, S. (61) 53
Aboshkiwa, M., see Coleman, G. (61) 247
Ahmad, S., see Singh, S. (61) 199
Al-Ani, B., see Coleman, G. (61) 247
Anwar, H., see Langford, P.R. (61) 33
Arai, S., Abe, K., Watabe, S., Emori, Y. and Watanabe, M.
Molecular cloning of an ice nucleation gene from *Erwinia ananas* and its expression in *Escherichia coli* (61) 53
Arguelles, J.C., see Vicente-Soler, J. (61) 273

Barton, L.L., see Klemm, D.J. (61) 61
Bayly, R.C., see Dean, H.F. (61) 153
Bielecki, S. and Brzeski, H.
Characterization of non-flocculent cells isolated from a culture of flocculent *Saccharomyces cerevisiae* NCYC 1001 (61) 189
Blaauw, M., see Bruinenberg, P.G. (61) 11
Bramble, J., see Thiel, T. (61) 27
Britz, M.L., see Haynes, J.A. (61) 329
Brown, M.R.W., see Langford, P.R. (61) 33
Bruinenberg, P.G., Blaauw, M., Veenhuis, M. and Ab, G.
Purification and some properties of malate synthase from the methylotrophic yeast *Hansenula polymorpha* (61) 11
Brzeski, H., see Bielecki, S. (61) 189
Buck, M., see Kent, H.M. (61) 73

Cabrera-Martinez, R.M., Mason, J.M., Setlow, B., Waites, W.M. and Setlow, P.
Purification and amino acid sequence of two small, acid-soluble proteins from *Clostridium bifermentans* spores (61) 139
Cárdenas, J., see Muñoz-Blanco, J. (61) 315
Chapman, V., see Zorzopulos, J. (61) 23
Chart, H. and Rowe, B.
The outer membrane protein of enteropathogenic *Escherichia coli*, described as the 'localised adherence factor', is OmpF and probably not involved in adhesion to HEp-2 cells (61) 291
Chart, H., see McConnell, M.M. (61) 105
Chaslus-Dancla, E., Glupczynski, Y., Gerbaud, G., Lagorce, M., Lafont, J.P. and Courvalin, P.
Detection of apramycin resistant Enterobacteriaceae in hospital isolates (61) 261
Cheevadhanarak, S., see Dean, H.F. (61) 153
Coleman, G., Aboshkiwa, M. and Al-Ani, B.
The effect of glucose on the expression of extracellular protein genes by *Staphylococcus aureus* strain V8 (61) 247
Colston, M.J., see Estrada-G, I.C.E. (61) 285
Condon, S., see Ross, R. (61) 183
Courvalin, P., see Chaslus-Dancla, E. (61) 261
Courvalin, P., see Etienne, J. (61) 133
Cox, R.A., see Estrada-G, I.C.E. (61) 285
Cózar, E., see García-Valdés, E. (61) 301

Dean, H.F., Cheevadhanarak, S., Skurray, R.A. and Bayly, R.C.
Characterisation of a degradative plasmid in *Pseudomonas putida* that controls the expression of 2,4-xylenol degradative genes (61) 153
De Long, S., see Zorzopulos, J. (61) 23
Del Vedovo, S., see Sherman, P. (61) 121
Deppenmeier, U., see Mahlmann, A. (61) 115
Dillon, J.-A.R., see Ng, L.-K. (61) 47

Ellis, A.E., see Lee, K.-K. (61) 127
Emori, Y., see Arai, S. (61) 53
Engelberts, K., see Hartmann, J. (61) 17
Estrada-G, I.C.E., Colston, M.J. and Cox, R.A.
Determination and evolutionary significance of nucleotide sequences near to the 3′-end of 16S ribosomal RNA of mycobacteria (61) 285
Etienne, J., Gerbaud, G., Courvalin, P. and Fleurette, J.
Plasmid-mediated resistance to fosfomycin in *Staphylococcus epidermidis* (61) 133
Evans, D.J., see Kent, H.M. (61) 73

Favaron, F., see Marciano, P. (61) 57
Ferenci, T. and Stretton, S.
Cysteine-22 and Cysteine-38 are not essential for the functions of maltoporin (LamB protein) (61) 335
Filippi, C., see Schiesser, A. (61) 159
Fleurette, J., see Etienne, J. (61) 133
Flint, H.J., see Thomson, A.M. (61) 101

Gacto, M., see Vicente-Soler, J. (61) 273
García, M.T., see Gutiérrez, M.C. (61) 37
García-Valdés, E., Cózar, E., Lalucat, J. and Rotger, R.
Molecular cloning of aromatic degradative genes from *Pseudomonas stutzeri* (61) 301
Gerbaud, G., see Chaslus-Dancla, E. (61) 261
Gerbaud, G., see Etienne, J. (61) 133
Gharbia, S.E., see Shah, H.N. (61) 213
Glupczynski, Y., see Chaslus-Dancla, E. (61) 261
Goluszko, P. and Nowacki, M.R.
Extracellular haemolytic activity of *Serratia marcescens* (61) 207

0378-1097/89/$03.50 © 1989 Federation of European Microbiological Societies

Gonda, I., see Langford, P.R. (61) 33
Gottschalk, G., see Mahlmann, A. (61) 115
Goyal, A.
Intracellular glycerol in *Dunaliella* is depleted by intracellular Metabolism in response to hypoosmotic stress by dilution (61) 145
Griffith, O.H., see Volwerk, J.J. (61) 237
Gutiérrez, M.C., García, M.T., Ventosa, A. and Ruiz-Berraquero, F.
Relationships among *Vibrio costicola* strains assessed by DNA–DNA hybridization (61) 37

Hamana, K., Matsuzaki, S., Hosaka, K. and Yamashita, S.
Interconversion of polyamines in wild-type strains and mutants of yeasts and the effects of polyamines on their growth (61) 231
Hammes, W., see Hartmann, E. (61) 323
Hansen, T.A., see Van Rijssel, M. (61) 41
Hartmann, E., König, H., Kandler, O. and Hammes, W.
Isolation of a nucleotide activated disaccharide pentapeptide precursor from *Methanobacterium thermoautotrophicum* (61) 323
Hartmann, J., Engelberts, K., Nordhaus, B., Schmidt, E. and Reineke, W.
Degradation of 2-chlorobenzoate by in vivo constructed hybrid pseudomonads (61) 17
Haynes, J.A. and Britz, M.L.
Electrotransformation of *Brevibacterium lactofermentum* and *Corynebacterium glutamicum*: growth in tween 80 increases transformation frequencies (61) 329
Hederstedt, L., see Petricek, M. (61) 85
Honda, T., Ni, Y., Hori, S., Takakura, H., Tsunasawa, S., Sakiyama, F. and Miwatani, T.
A mutant hemolysin with lower biological activity produced by a mutant *Vibrio parahaemolyticus* (61) 95
Honda, T., see Tsuji, T. (61) 1
Honda, T., see Yoh, M. (61) 171
Hong, Y.-M., see Sugai, M. (61) 267
Hori, S., see Honda, T. (61) 95
Hosaka, K., see Hamana, K. (61) 231

Joya, J.E., see Tsuji, T. (61) 1

Kamihara, T., see Takeo, K. (61) 297
Kandler, O., see Hartmann, E. (61) 323
Katayama, Y., Nishida, T., Morohoshi, N. and Kuroda, K.
The metabolism of biphenyl structures in lignin by the wood-rotting fungus *Coriolus versicolor* (61) 307
Katsu, T., see Yamanaka, H. (61) 251
Kent, H.M., Buck, M. and Evans, D.J.
Cloning and sequencing of the *nifH* gene of *Desulfovibrio gigas* (61) 73
Kirsch, D.G., see Macy, J.M. (61) 195
Klemm, D.J. and Barton, L.L.
Protoporphyrinogen oxidation coupled to nitrite reduction with membranes from *Desulfovibrio gigas* (61) 61
Koh, E., see Niimura, Y. (61) 79
Koike, H., see Sugai, M. (61) 267
Koke, J.A., see Volwerk, J.J. (61) 237
König, H., see Hartmann, E. (61) 323
Koumoto, Y., see Yamamoto, S. (61) 225
Koyama, N.
Na^+-dependence of the stability under alkaline conditions of the membrane of an alkalophilic *Bacillus* (61) 7
Kozaki, M., see Niimura, Y. (61) 79
Kozloff, L.M., see Zorzopulos, J. (61) 23
Kuczek, K. and Mordarski, M.
Bacterial colony screening with a *Streptomyces* DNA probe (61) 257
Kuroda, K., see Katayama, Y. (61) 307

Lafont, J.P., see Chaslus-Dancla, E. (61) 261
Lagorce, M., see Chaslus-Dancla, E. (61) 261
Lalucat, J., see García-Valdés, E. (61) 301
Langford, P.R., Anwar, H., Gonda, I. and Brown, M.R.W.
Outer membrane proteins of gentamicin induced small colony variants of *Pseudomonas aeruginosa* (61) 33
Lee, K.-K. and Ellis, A.E.
The quantitative relationship of lethality between extracellular protease and extracellular haemolysin of *Aeromonas salmonicida* in Atlantic salmon (*Salmo salar* L.) (61) 127
Lepidi, A.A., see Schiesser, A. (61) 159

Macy, J.M., Michel, T.A. and Kirsch, D.G.
Selenate reduction by a *Pseudomonas* species: a new mode of anaerobic respiration (61) 195
Magro, P., see Marciano, P. (61) 57
Mahlmann, A., Deppenmeier, U. and Gottschalk, G.
Methanofuran-b is required for CO_2 formation from formaldehyde by *Methanosarcina barkeri* (61) 115
Mamadou, D., Marie-Ange, D. and Nicole, G.
The cell envelope of *Mycobacterium smegmatis*: cytochemistry and architectural implications (61) 89
Marciano, P., Magro, P. and Favaron, F.
Sclerotinia sclerotiorum growth and oxalic acid production on selected culture media (61) 57
Marie-Ange, D., see Mamadou, D. (61) 89
Mason, J.M., see Cabrera-Martinez, R.M. (61) 139
Matsuyama, T., Sogawa, M. and Nakagawa, Y.
Fractal spreading growth of *Serratia marcescens* which produces surface active exolipids (61) 243
Matsuzaki, S., see Hamana, K. (61) 231
Mayer, F., see Nolte, A. (61) 65
McConnell, M.M., Chart, H. and Rowe, B.
Antigenic homology within human enterotoxigenic *Escherichia coli* fimbrial colonization factor antigens: CFA/I, coli-surface-associated antigens (CS)1, CS2, CS4 and CS17 (61) 105
Michel, T.A., see Macy, J.M. (61) 195
Mikucki, J., see Szewczyk, E. (61) 279
Miwatani, T., see Honda, T. (61) 95
Miwatani, T., see Tsuji, T. (61) 1
Miwatani, T., see Yoh, M. (61) 171
Miyake, Y., see Sugai, M. (61) 267

Mordarski, M., see Kuczek, K. (61) 257
Morohoshi, N., see Katayama, Y. (61) 307
Moyano, E., see Muñoz-Blanco, J. (61) 315
Muñoz-Blanco, J., Moyano, E. and Cárdenas, J.
Glutamate dehydrogenase isozymes of *Chlamydomonas reinhardtii* (61) 315

Nakagawa, Y., see Matsuyama, T. (61) 243
Nakao, H., see Yamamoto, S. (61) 225
Neeser, J.R., see Sherman, P. (61) 121
Ng, L.-K. and Dillon, J.-A.R.
Plasmid analysis and antimicrobial susceptibilities of *Peptostreptococcus* species (61) 47
Ni, Y., see Honda, T. (61) 95
Nicole, G., see Mamadou, D. (61) 89
Niimura, Y., Koh, E., Uchimura, T., Ohara, N. and Kozaki, M.
Aerobic and anaerobic metabolism in a facultative anaerobe Ep01 lacking cytochrome, quinone and catalase (61) 79
Nishida, T., see Katayama, Y. (61) 307
Nogami, R., see Sugai, M. (61) 267
Nolte, A. and Mayer, F.
Localization and immunological characterization of the cellulolytic enzyme system in *Clostridium thermocellum* (61) 65
Nordhaus, B., see Hartmann, J. (61) 17
Nowacki, M.R., see Goluszko, P. (61) 207

Ochi, K.
The *tsr* gene-coding plasmid pIJ702 prevents thiopeptin from inhibiting ppGpp synthesis in *Streptomyces lividans* (61) 219
O'Gara, F., see Ross, R. (61) 183
Ohara, N., see Niimura, Y. (61) 79
Ono, B.-i., see Yamanaka, H. (61) 251

Petříček, M. and Tichý, P.
Streptomyces cloning vector derived from *Streptomyces lavendulae-grasserius* mini-plasmid pSLG33 (61) 109
Petricek, M., Rutberg, L. and Hederstedt, L.
The structural gene for aspartokinase II in *Bacillus subtilis* is closely linked to the *sdh* operon (61) 85

Quintero, A., see Romero, F. (61) 203

Rai, A.K.
Purification and properties of urease from a cyanobacterium *Anabaena doliolum* (61) 319
Reineke, W., see Hartmann, J. (61) 17
Rogers, S., see Thiel, T. (61) 27
Roldán, J.M., see Romero, F. (61) 203
Romero, F., Quintero, A. and Roldán, J.M.
Characterization of a methionine sulfoximine resistant strain of *Rhodobacter capsulatus* E1F1 (61) 203
Ross, R., O'Gara, F. and Condon, S.
Cloning of chromosomal genes of *Lactococcus* by heterologous complementation: Partial characterisation of a putative lactose transport gene (61) 183
Rotger, R., see García-Valdés, E. (61) 301
Rowe, B., see Chart, H. (61) 291
Rowe, B., see McConnell, M.M. (61) 105
Ruiz-Berraquero, F., see Gutiérrez, M.C. (61) 37
Rutberg, L., see Petricek, M. (61) 85

Sakiyama, F., see Honda, T. (61) 95
Schiesser, A., Filippi, C. and Lepidi, A.A.
Ultrastructure of wheat straw cell wall delignified by *Pleurotus ostreatus* (61) 159
Schmidt, E., see Hartmann, J. (61) 17
Setlow, B., see Cabrera-Martinez, R.M. (61) 139
Setlow, P., see Cabrera-Martinez, R.M. (61) 139
Shah, H.N. and Gharbia, S.E.
Lysis of erythrocytes by the secreted cysteine proteinase of *Porphyromonas gingivalis* W83 (61) 213
Sherman, P., Soni, R., Del Vedovo, S. and Neeser, J.R.
Effect of oligomannoside-type glycopeptides in diarrheal disease of rabbits induced by *Escherichia coli* strain RDEC-1 (61) 121
Shimatani, S., see Yamanaka, H. (61) 251
Shinoda, S., see Yamamoto, S. (61) 225
Shinoda, S., see Yamanaka, H. (61) 251
Singh, S. and Ahmad, S.
Regulation of urea uptake by ammonia in the cyanobacterium *Anabaena doliolum* (61) 199
Skurray, R.A., see Dean, H.F. (61) 153
Sogawa, M., see Matsuyama, T. (61) 243
Soni, R., see Sherman, P. (61) 121
Storer, A., see Veeraragavan, K. (61) 149
Stretton, S., see Ferenci, T. (61) 335
Sugai, M., Koike, H., Hong, Y.-M., Miyake, Y., Nogami, R. and Suginaka, H.
Purification of a 51 kDa endo-β-*N*-acetylglucosaminidase from *Staphylococcus aureus* (61) 267
Suginaka, H., see Sugai, M. (61) 267
Szewczyk, E. and Mikucki, J.
Poly-β-hydroxybutyric acid in staphylococci (61) 279

Takakura, H., see Honda, T. (61) 95
Takeo, K., Yamamura, M. and Kamihara, T.
Ultrastructural alterations in *Saccharomyces cerevisiae* cells in association with elevated temperature-induced autolysis (61) 297
Tanaka, M., see Yamanaka, H. (61) 251
Thiel, T., Bramble, J. and Rogers, S.
Optimum conditions for growth of cyanobacteria on solid media (61) 27
Thomson, A.M. and Flint, H.J.
Electroporation induced transformation of *Bacteroides ruminicola* and *Bacteroides uniformis* by plasmid DNA (61) 101
Tichý, P., see Petříček, M. (61) 109
Tsuji, T., Yao, S., Joya, J.E., Honda, T. and Miwatani, T.
Charge heterogeneity of heat-labile enterotoxins from human enterotoxigenic *Escherichia coli* (61) 1
Tsunasawa, S., see Honda, T. (61) 95

Uchimura, T., see Niimura, Y. (61) 79

Vande Broek, A., Van Gool, A. and Vanderleyden, J.
Electroporation of *Azospirillum brasilense* with plasmid DNA (61) 177
Vanderleyden, J., see Vande Broek, A. (61) 177
Van Gool, A., see Vande Broek, A. (61) 177
Van Rijssel, M. and Hansen, T.A.
Fermentation of pectin by a newly isolated *Clostridium thermosaccharolyticum* strain (61) 41
Veenhuis, M., see Bruinenberg, P.G. (61) 11
Veeraragavan, K. and Storer, A.
Studies on two major contaminating proteins of the cytoplasmic inclusion bodies in *Escherichia coli* (61) 149
Vehmaanperä, J.
Transformation of *Bacillus amyloliquefaciens* by electroporation (61) 165
Ventosa, A., see Gutiérrez, M.C. (61) 37
Vicente-Soler, J., Arguelles, J.C. and Gacto, M.
Presence of two trehalose-6-phosphate synthase enzymes in *Candida utilis* (61) 273
Volwerk, J.J., Koke, J.A., Wetherwax, P.B. and Griffith, O.H.
Functional characteristics of phosphatidylinositol-specific phospholipases C from *Bacillus cereus* and *Bacillus thuringiensis* (61) 237

Waites, W.M., see Cabrera-Martinez, R.M. (61) 139
Watabe, S., see Arai, S. (61) 53
Watanabe, M., see Arai, S. (61) 53
Wetherwax, P.B., see Volwerk, J.J. (61) 237

Yamamoto, S., Nakao, H., Koumoto, Y. and Shinoda, S.
Identification of N^1-acetylnorspermidine in *Vibrio parahaemolyticus* and an enzyme activity responsible for its formation (61) 225
Yamamura, M., see Takeo, K. (61) 297
Yamanaka, H., Shimatani, S., Tanaka, M., Katsu, T., Ono, B.-i. and Shinoda, S.
Susceptibility of erythrocytes from several animal species to *Vibrio vulnificus* hemolysin (61) 251
Yamashita, S., see Hamana, K. (61) 231
Yao, S., see Tsuji, T. (61) 1
Yoh, M., Honda, T. and Miwatani, T.
Homogeneity of a hemolysin(Vh-rTDH) produced by clinical and environmental isolates of *Vibrio hollisae* (61) 171

Zorzopulos, J., De Long, S., Chapman, V. and Kozloff, L.M.
Evidence for a net-like organization of lipopolysaccharide particles in the *Escherichia coli* outer membrane (61) 23

FEMS Microbiology Letters

SUBJECT INDEX VOLUME 61

A and B subunits, pI point
Heat-labile enterotoxin (Tsuji, T. (61) 1)

Acetyltransferase
Polyamine acetylation; Norspermidine (Yamamoto, S. (61) 225)

Adhesion
Outer membrane protein; *Escherichia coli* (Chart, H. (61) 291)

aecA
aecB; Chromosomal genetic map; Amino acid biosynthesis (Petricek, M. (61) 85)

aecB
aecA; Chromosomal genetic map; Amino acid biosynthesis (Petricek, M. (61) 85)

Aerobic metabolism
Facultative anaerobe; Anaerobic metabolism (Niimura, Y. (61) 79)

Aeromonas salmonicida
Extracellular protease; Extracellular haemolysin; Lethal toxin (Atlantic salmon) (Lee, K.-K. (61) 127)

Amino acid biosynthesis
aecA; *aecB*; Chromosomal genetic map (Petricek, M. (61) 85)

Amino acid sequence
Clostridium bifermentans; Spores; Sporulation (Cabrera-Martinez, R.M. (61) 139)

Aminopropylcadaverine
Polyamine auxotroph; Yeasts; Aminopropylhomospermidine (Hamana, K. (61) 231)

Aminopropylhomospermidine
Polyamine auxotroph; Yeasts; Aminopropylcadaverine (Hamana, K. (61) 231)

Anabaena doliolum
Cyanobacterium; Regulation; Urea-uptake (Singh, S. (61) 199)

Cyanobacteria; Urease; Purification; Properties (Rai, A.K. (61) 319)

Anaerobic metabolism
Facultative anaerobe; Aerobic metabolism (Niimura, Y. (61) 79)

Anaerobic respiration
Pseudomonas sp.; Selenate reduction (Macy, J.M. (61) 195)

Antibiotic resistance
Fosfomycin; *Staphylococcus epidermis*; Plasmid (Etienne, J. (61) 133)

Antigenic cross-reaction
Escherichia coli; Fimbriae; ETEC (McConnell, M.M. (61) 105)

Antimicrobial susceptibility
Peptostreptococcus sp.; Plasmid analysis (Ng, L.-K. (61) 47)

Apramycin
Gentamicin; Resistance; Plasmids; Hybridization (Chaslus-Dancla, E. (61) 261)

Archaebacteria
Methanogens; *Methanobacterium thermoautotrophicum*; Cell walls; Peptidoglycan; Murein; Pseudomurein; Biosynthesis (Hartmann, E. (61) 323)

Aromatic ring fission
Lignin metabolism; Biphenyl structure; Quinone structure; Wood-rotting fungus; *Coriolus versicolor* (Katayama, Y. (61) 307)

Autolysis
Cell wall surface; Plasma membrane; Ultrastructure; *Saccharomyces cerevisiae* (Takeo, K. (61) 297)

Azospirillum
Electroporation; Plasmid DNA (Vande Broek, A. (61) 177)

***Bacillus* sp.**
Membrane potential; Transmembrane pH gradient; Stability (Koyama, N. (61) 7)

Bacillus subtilis
Electro-transformation; Electropermeabilization; pUB110; pC194; pE194 (Vehmaanperä, J. (61) 165)

Bacteroides
Electroporation; Transformation; Plasmids (Thomson, A.M. (61) 101)

Biosynthesis
Methanogens; Archaebacteria; *Methanobacterium thermoautotrophicum*; Cell walls; Peptidoglycan; Murein; Pseudomurein (Hartmann, E. (61) 323)

0378-1097/89/$03.50 © 1989 Federation of European Microbiological Societies

Biphenyl structure
Lignin metabolism; Aromatic ring fission; Quinone structure; Wood-rotting fungus; *Coriolus versicolor* (Katayama, Y. (61) 307)

Brevibacterium lactofermentum
Electroporation; Tween 80 (Haynes, J.A. (61) 329)

Candida utilis
Trehalose-6-phosphate synthases; Protein phosphorylation; Enzyme inactivation (Vicente-Soler, J. (61) 273)

Catabolic plasmid
Pseudomonas putida; 2,4-Xylenol; *p*-Cresol (Dean, H.F. (61) 153)

Catalytic properties
Phosphatidylinositol-specific phospholipase C; Purification; Specific activity; PI-glycan hydrolysis (Volwerk, J.J. (61) 237)

Catechol-2,3-dioxygenase
Naphthalene catabolism; Salicylate-hydroxylase (García-Valdés, E. (61) 301)

Cell envelope
Mycobacterium smegmatis; Cytochemistry (Mamadou, D. (61) 89)

Cellulase
Clostridium thermocellum; Immunoelectron microscopy (Nolte, A. (61) 65)

Cellulose hydrolysis ultrastructure
Pleurotus ostreatus; Delignification (Schiesser, A. (61) 159)

Cell wall
Escherichia coli; LPS particles (Zorzopulos, J. (61) 23)

Cell walls
Methanogens; Archaebacteria; *Methanobacterium thermoautotrophicum*; Peptidoglycan; Murein; Pseudomurein; Biosynthesis (Hartmann, E. (61) 323)

Cell wall surface
Autolysis; Plasma membrane; Ultrastructure; *Saccharomyces cerevisiae* (Takeo, K. (61) 297)

Chlamydomas reinhardtii
Glutamate dehydrogenase (Muñoz-Blanco, J. (61) 315)

Chlorobenzoate utilization
Hybrid organisms; Chlorocatechol degrading enzymes (Hartmann, J. (61) 17)

Chlorocatechol degrading enzymes
Chlorobenzoate utilization; Hybrid organisms (Hartmann, J. (61) 17)

Chromosomal genetic map
aecA; *aecB*; Amino acid biosynthesis (Petricek, M. (61) 85)

Clostridium bifermentans
Spores; Sporulation; Amino acid sequence (Cabrera-Martinez, R.M. (61) 139)

Clostridium thermocellum
Cellulase; Immunoelectron microscopy (Nolte, A. (61) 65)

Clostridium thermosaccharolyticum
Pectin; Methylesterase; Polygalacturonate hydrolase (Van Rijssel, M. (61) 41)

Colony growth
Cyanobacteria; Optimum conditions (Thiel, T. (61) 27)

Colony hybridization
DNA probe; Repeated sequences; *Streptomyces* (Kuczek, K. (61) 257)

Complementation
Lactococcus lactis; Plasmid; *Escherichia coli*; Lactose transport gene (Ross, R. (61) 183)

Contaminating proteins
Inclusion bodies; *Escherichia coli*; N-terminal sequence (Veeraragavan, K. (61) 149)

Coriolus versicolor
Lignin metabolism; Biphenyl structure; Aromatic ring fission; Quinone structure; Wood-rotting fungus (Katayama, Y. (61) 307)

***p*-Cresol**
Pseudomonas putida; 2,4-Xylenol; Catabolic plasmid (Dean, H.F. (61) 153)

Cyanobacteria
Colony growth; Optimum conditions (Thiel, T. (61) 27)

Anabaena doliolum; Urease; Purification; Properties (Rai, A.K. (61) 319)

Cyanobacterium
Anabaena doliolum; Regulation; Urea-uptake (Singh, S. (61) 199)

Cytochemistry
Mycobacterium smegmatis; Cell envelope (Mamadou, D. (61) 89)

Cytolysin
Erythrocyte; *Vibrio vulnificus; Vibrio*; Hemolysis; Hemolysin (Yamanaka, H. (61) 251)

Delignification
Pleurotus ostreatus; Cellulose hydrolysis ultrastructure (Schiesser, A. (61) 159)

Desulfovibrio
Heme; Nitrite; Respiration; Phosphorylation; Membranes; Protoporphyrin (Klemm, D.J. (61) 61)

Desulfovibrio gigas
nifH; Nitrogen fixation (Kent, H.M. (61) 73)

Diarrheal disease
Glycopeptide; *Escherichia coli* (Sherman, P. (61) 121)

DNA homology
Vibrio costicola; Moderately halophilic eubacteria (Gutiérrez, M.C. (61) 37)

DNA probe
Repeated sequences; *Streptomyces*; Colony hybridization (Kuczek, K. (61) 257)

Dunaliella
Glycerol metabolism; Hypoosmotic stress; Osmoregulation (Goyal, A. (61) 145)

Dye-ligand affinity chromatography
Staphylococcus aureus; Endo-β-*N*-acetylglucosaminidase; Purification (Sugai, M. (61) 267)

Electropermeabilization
Electro-transformation; *Bacillus subtilis*; pUB110; pC194; pE194 (Vehmaanperä, J. (61) 165)

Electroporation
Bacteroides; Transformation; Plasmids (Thomson, A.M. (61) 101)

Azospirillum; Plasmid DNA (Vande Broek, A. (61) 177)

Brevibacterium lactofermentum; Tween 80 (Haynes, J.A. (61) 329)

Electro-transformation
Electropermeabilization; *Bacillus subtilis*; pUB110; pC194; pE194 (Vehmaanperä, J. (61) 165)

Endo-β-*N*-acetylglucosaminidase
Staphylococcus aureus; Purification; Dye-ligand affinity chromatography (Sugai, M. (61) 267)

Enzyme inactivation
Candida utilis; Trehalose-6-phosphate synthases; Protein phosphorylation (Vicente-Soler, J. (61) 273)

Enzyme purification
Malate synthase; Peroxisomes; *Hansenula polymorpha* (Bruinenberg, P.G. (61) 11)

Erwinia ananas
Ice nucleation activity; *ina*A (Arai, S. (61) 53)

Erythrocyte
Vibrio vulnificus; Vibrio; Hemolysis; Hemolysin; Cytolysin (Yamanaka, H. (61) 251)

Erythrocyte lysis
Porphyromonas gingivalis; Protease; Haemagglutination; Vesicles (Shah, H.N. (61) 213)

Escherichia coli
Cell wall; LPS particles (Zorzopulos, J. (61) 23)

Antigenic cross-reaction; Fimbriae; ETEC (McConnell, M.M. (61) 105)

Glycopeptide; Diarrheal disease (Sherman, P. (61) 121)

Contaminating proteins; Inclusion bodies; N-terminal sequence (Veeraragavan, K. (61) 149)

Lactococcus lactis; Plasmid; Complementation; Lactose transport gene (Ross, R. (61) 183)

Outer membrane protein; Adhesion (Chart, H. (61) 291)

Outer membrane protein; Maltodextrin binding; Phage Lambda binding (Ferenci, T. (61) 335)

Essential region of replicon
Streptomyces plasmid; vector construction (Petříček, M. (61) 109)

ETEC
Escherichia coli; Antigenic cross-reaction; Fimbriae (McConnell, M.M. (61) 105)

Exolipid
Serratia marcescens; Spreading growth; Fractal (Matsuyama, T. (61) 243)

Extracellular haemolysin
Aeromonas salmonicida; Extracellular protease; Lethal toxin (Atlantic salmon) (Lee, K.-K. (61) 127)

Extracellular protease
Aeromonas salmonicida; Extracellular haemolysin; Lethal toxin (Atlantic salmon) (Lee, K.-K. (61) 127)

Extracellular protein
Staphylococcus aureus; Gene expression (Coleman, G. (61) 247)

Facultative anaerobe
Aerobic metabolism; Anaerobic metabolism (Niimura, Y. (61) 79)

Fimbriae
Escherichia coli; Antigenic cross-reaction; ETEC (McConnell, M.M. (61) 105)

Flocculation
Yeast (Bielecki, S. (61) 189)

Formaldehyde oxidation
Methanogenesis from methanol; *Methanosarcina barkeri*; Tetrahydromethanopterin-b; Methanofuran-b (Mahlmann, A. (61) 115)

Fosfomycin
Staphylococcus epidermis; Plasmid; Antibiotic resistance (Etienne, J. (61) 133)

Fractal
Serratia marcescens; Exolipid; Spreading growth (Matsuyama, T. (61) 243)

Gene expression
Staphylococcus aureus; Extracellular protein (Coleman, G. (61) 247)

Gentamicin
Apramycin; Resistance; Plasmids; Hybridization (Chaslus-Dancla, E. (61) 261)

Glutamate dehydrogenase
Chlamydomas reinhardtii (Muñoz-Blanco, J. (61) 315)

Glycerol metabolism
Dunaliella; Hypoosmotic stress; Osmoregulation (Goyal, A. (61) 145)

Glycopeptide
Escherichia coli; Diarrheal disease (Sherman, P. (61) 121)

Haemagglutination
Porphyromonas gingivalis; Protease; Erythrocyte lysis; Vesicles (Shah, H.N. (61) 213)

Haemolytic activity
Serratia marcescens; Lysis (Goluszko, P. (61) 207)

Hansenula polymorpha
Malate synthase; Enzyme purification; Peroxisomes (Bruinenberg, P.G. (61) 11)

Heat-labile enterotoxin
A and B subunits, p*I* point (Tsuji, T. (61) 1)

Heme
Desulfovibrio; Nitrite; Respiration; Phosphorylation; Membranes; Protoporphyrin (Klemm, D.J. (61) 61)

Hemolysin
Vibrio hollisae; Vh-rTDH (Yoh, M. (61) 171)

Erythrocyte; *Vibrio vulnificus; Vibrio*; Hemolysis; Cytolysin (Yamanaka, H. (61) 251)

Hemolysis
Erythrocyte; *Vibrio vulnificus; Vibrio*; Hemolysin; Cytolysin (Yamanaka, H. (61) 251)

Hybridization
Apramycin; Gentamicin; Resistance; Plasmids (Chaslus-Dancla, E. (61) 261)

Hybrid organisms
Chlorobenzoate utilization; Chlorocatechol degrading enzymes (Hartmann, J. (61) 17)

poly-β-Hydroxybutyric acid
Staphylococci (Szewczyk, E. (61) 279)

Hypoosmotic stress
Dunaliella; Glycerol metabolism; Osmoregulation (Goyal, A. (61) 145)

Ice nucleation activity
Erwinia ananas; *ina*A (Arai, S. (61) 53)

Immunoelectron microscopy
Clostridium thermocellum; Cellulase (Nolte, A. (61) 65)

***ina*A**
Erwinia ananas; Ice nucleation activity (Arai, S. (61) 53)

Inclusion bodies
Contaminating proteins; *Escherichia coli*; N-terminal sequence (Veeraragavan, K. (61) 149)

Lactococcus lactis
Plasmid; *Escherichia coli*; Complementation; Lactose transport gene (Ross, R. (61) 183)

Lactose transport gene
Lactococcus lactis; Plasmid; *Escherichia coli*; Complementation (Ross, R. (61) 183)

Lethal toxin (Atlantic salmon)
Aeromonas salmonicida; Extracellular protease; Extracellular haemolysin (Lee, K.-K. (61) 127)

Lignin metabolism
Biphenyl structure; Aromatic ring fission; Quinone structure; Wood-rotting fungus; *Coriolus versicolor* (Katayama, Y. (61) 307)

LPS particles
Escherichia coli; Cell wall (Zorzopulos, J. (61) 23)

Lysis
Serratia marcescens; Haemolytic activity (Goluszko, P. (61) 207)

Malate synthase
Enzyme purification; Peroxisomes; *Hansenula polymorpha* (Bruinenberg, P.G. (61) 11)

Maltodextrin binding
Escherichia coli; Outer membrane protein; Phage Lambda binding (Ferenci, T. (61) 335)

Membrane potential
Bacillus sp.; Transmembrane pH gradient; Stability (Koyama, N. (61) 7)

Membranes
Heme; *Desulfovibrio*; Nitrite; Respiration; Phosphorylation; Protoporphyrin (Klemm, D.J. (61) 61)

Methanobacterium thermoautotrophicum
Methanogens; Archaebacteria; Cell walls; Peptidoglycan; Murein; Pseudomurein; Biosynthesis (Hartmann, E. (61) 323)

Methanofuran-b
Methanogenesis from methanol; Formaldehyde oxidation; *Methanosarcina barkeri*; Tetrahydromethanopterin-b (Mahlmann, A. (61) 115)

Methanogenesis from methanol
Formaldehyde oxidation; *Methanosarcina barkeri*; Tetrahydromethanopterin-b; Methanofuran-b (Mahlmann, A. (61) 115)

Methanogens
Archaebacteria; *Methanobacterium thermoautotrophicum*; Cell walls; Peptidoglycan; Murein; Pseudomurein; Biosynthesis (Hartmann, E. (61) 323)

Methanosarcina barkeri
Methanogenesis from methanol; Formaldehyde oxidation; Tetrahydromethanopterin-b; Methanofuran-b (Mahlmann, A. (61) 115)

Methionine sulfoximine
Photosynthetic bacteria; *Rhodobacter capsulatus*; Resistant strain (Romero, F. (61) 203)

Methylesterase
Pectin; Polygalacturonate hydrolase; *Clostridium thermosaccharolyticum* (Van Rijssel, M. (61) 41)

Moderately halophilic eubacteria
Vibrio costicola; DNA homology (Gutiérrez, M.C. (61) 37)

Murein
Methanogens; Archaebacteria; *Methanobacterium thermoautotrophicum*; Cell walls; Peptidoglycan; Pseudomurein; Biosynthesis (Hartmann, E. (61) 323)

Mutant
Thermostatic direct hemolysin; *Vibrio parahaemolyticus* (Honda, T. (61) 95)

Mycobacteria
Nucleotide sequence; rRNA (Estrada-G, I.C.E. (61) 285)

Mycobacterium smegmatis
Cell envelope; Cytochemistry (Mamadou, D. (61) 89)

Naphthalene catabolism
Catechol-2,3-dioxygenase; Salicylate-hydroxylase (García-Valdés, E. (61) 301)

nifH
Desulfovibrio gigas; Nitrogen fixation (Kent, H.M. (61) 73)

Nitrite
Heme; *Desulfovibrio*; Respiration; Phosphorylation; Membranes; Protoporphyrin (Klemm, D.J. (61) 61)

Nitrogen fixation
Desulfovibrio gigas; nifH (Kent, H.M. (61) 73)

Norspermidine
Polyamine acetylation; Acetyltransferase (Yamamoto, S. (61) 225)

N-terminal sequence
Contaminating proteins; Inclusion bodies; *Escherichia coli* (Veeraragavan, K. (61) 149)

Nucleotide sequence
Mycobacteria; rRNA (Estrada-G, I.C.E. (61) 285)

Optimum conditions
Cyanobacteria; Colony growth (Thiel, T. (61) 27)

Osmoregulation
Dunaliella; Glycerol metabolism; Hypoosmotic stress (Goyal, A. (61) 145)

Outer membrane protein
Escherichia coli; Adhesion (Chart, H. (61) 291)

Escherichia coli; Maltodextrin binding; Phage Lambda binding (Ferenci, T. (61) 335)

Oxalic acid production
Sclerotinia sclerotiorum (Marciano, P. (61) 57)

pC194
Electro-transformation; Electropermeabilization; *Bacillus subtilis*; pUB110; pE194 (Vehmaanperä, J. (61) 165)

pE194
Electro-transformation; Electropermeabilization; *Bacillus subtilis*; pUB110; pC194 (Vehmaanperä, J. (61) 165)

Pectin
Methylesterase; Polygalacturonate hydrolase; *Clostridium thermosaccharolyticum* (Van Rijssel, M. (61) 41)

Peptidoglycan
Methanogens; Archaebacteria; *Methanobacterium thermoautotrophicum*; Cell walls; Murein; Pseudomurein; Biosynthesis (Hartmann, E. (61) 323)

***Peptostreptococcus* sp.**
Plasmid analysis; Antimicrobial susceptibility (Ng, L.-K. (61) 47)

Peroxisomes
Malate synthase; Enzyme purification; *Hansenula polymorpha* (Bruinenberg, P.G. (61) 11)

Phage Lambda binding
Escherichia coli; Outer membrane protein; Maltodextrin binding (Ferenci, T. (61) 335)

Phosphatidylinositol-specific phospholipase C
Purification; Specific activity; PI-glycan hydrolysis; Catalytic properties (Volwerk, J.J. (61) 237)

Phosphorylation
Heme; *Desulfovibrio*; Nitrite; Respiration; Membranes; Protoporphyrin (Klemm, D.J. (61) 61)

Photosynthetic bacteria
Rhodobacter capsulatus; Methionine sulfoximine; Resistant strain (Romero, F. (61) 203)

PI-glycan hydrolysis
Phosphatidylinositol-specific phospholipase C; Purification; Specific activity; Catalytic properties (Volwerk, J.J. (61) 237)

pLJ702
Streptomyces lividans; ppGpp; Thiopeptin (Ochi, K. (61) 219)

Plasma membrane
Autolysis; Cell wall surface; Ultrastructure; *Saccharomyces cerevisiae* (Takeo, K. (61) 297)

Plasmid
Fosfomycin; *Staphylococcus epidermis*; Antibiotic resistance (Etienne, J. (61) 133)

Lactococcus lactis; *Escherichia coli*; Complementation; Lactose transport gene (Ross, R. (61) 183)

Plasmid analysis
Peptostreptococcus sp.; Antimicrobial susceptibility (Ng, L.-K. (61) 47)

Plasmid DNA
Azospirillum; Electroporation (Vande Broek, A. (61) 177)

Plasmids
Bacteroides; Electroporation; Transformation (Thomson, A.M. (61) 101)

Apramycin; Gentamicin; Resistance; Hybridization (Chaslus-Dancla, E. (61) 261)

Pleurotus ostreatus
Cellulose hydrolysis ultrastructure; Delignification (Schiesser, A. (61) 159)

Polyamine acetylation
Norspermidine; Acetyltransferase (Yamamoto, S. (61) 225)

Polyamine auxotroph
Yeasts; Aminopropylcadaverine; Aminopropylhomospermidine (Hamana, K. (61) 231)

Polygalacturonate hydrolase
Pectin; Methylesterase; *Clostridium thermosaccharolyticum* (Van Rijssel, M. (61) 41)

Porphyromonas gingivalis
Protease; Erythrocyte lysis; Haemagglutination; Vesicles (Shah, H.N. (61) 213)

ppGpp
Streptomyces lividans; Thiopeptin; pLJ702 (Ochi, K. (61) 219)

Properties
Cyanobacteria; *Anabaena doliolum*; Urease; Purification (Rai, A.K. (61) 319)

Protease
Porphyromonas gingivalis; Erythrocyte lysis; Haemagglutination; Vesicles (Shah, H.N. (61) 213)

Protein phosphorylation
Candida utilis; Trehalose-6-phosphate synthases; Enzyme inactivation (Vicente-Soler, J. (61) 273)

Protoporphyrin
Heme; *Desulfovibrio*; Nitrite; Respiration; Phosphorylation; Membranes (Klemm, D.J. (61) 61)

Pseudomonas putida
2,4-Xylenol; *p*-Cresol; Catabolic plasmid (Dean, H.F. (61) 153)

***Pseudomonas* sp.**
Selenate reduction; Anaerobic respiration (Macy, J.M. (61) 195)

Pseudomurein
Methanogens; Archaebacteria; *Methanobacterium thermoautotrophicum*; Cell walls; Peptidoglycan; Murein; Biosynthesis (Hartmann, E. (61) 323)

pUB110
Electro-transformation; Electropermeabilization; *Bacillus subtilis*; pC194; pE194 (Vehmaanperä, J. (61) 165)

Purification
Phosphatidylinositol-specific phospholipase C; Specific activity; PI-glycan hydrolysis; Catalytic properties (Volwerk, J.J. (61) 237)

Staphylococcus aureus; Endo-β-*N*-acetylglucosaminidase; Dye-ligand affinity chromatography (Sugai, M. (61) 267)

Cyanobacteria; *Anabaena doliolum*; Urease; Properties (Rai, A.K. (61) 319)

Quinone structure
Lignin metabolism; Biphenyl structure; Aromatic ring fission; Wood-rotting fungus; *Coriolus versicolor* (Katayama, Y. (61) 307)

Regulation
Anabaena doliolum; Cyanobacterium; Urea-uptake (Singh, S. (61) 199)

Repeated sequences
DNA probe; *Streptomyces*; Colony hybridization (Kuczek, K. (61) 257)

Resistance
Apramycin; Gentamicin; Plasmids; Hybridization (Chaslus-Dancla, E. (61) 261)

Resistant strain
Photosynthetic bacteria; *Rhodobacter capsulatus*; Methionine sulfoximine (Romero, F. (61) 203)

Respiration
Heme; *Desulfovibrio*; Nitrite; Phosphorylation; Membranes; Protoporphyrin (Klemm, D.J. (61) 61)

Rhodobacter capsulatus
Photosynthetic bacteria; Methionine sulfoximine; Resistant strain (Romero, F. (61) 203)

rRNA
Mycobacteria; Nucleotide sequence (Estrada-G, I.C.E. (61) 285)

Saccharomyces cerevisiae
Autolysis; Cell wall surface; Plasma membrane; Ultrastructure (Takeo, K. (61) 297)

Salicylate-hydroxylase
Naphthalene catabolism; Catechol-2,3-dioxygenase (García-Valdés, E. (61) 301)

Sclerotinia sclerotiorum
Oxalic acid production (Marciano, P. (61) 57)

Selenate reduction
Pseudomonas sp.; Anaerobic respiration (Macy, J.M. (61) 195)

Serratia marcescens
Haemolytic activity; Lysis (Goluszko, P. (61) 207)

Exolipid; Spreading growth; Fractal (Matsuyama, T. (61) 243)

Specific activity
Phosphatidylinositol-specific phospholipase C; Purification; PI-glycan hydrolysis; Catalytic properties (Volwerk, J.J. (61) 237)

Spores
Clostridium bifermentans; Sporulation; Amino acid sequence (Cabrera-Martinez, R.M. (61) 139)

Sporulation
Clostridium bifermentans; Spores; Amino acid sequence (Cabrera-Martinez, R.M. (61) 139)

Spreading growth
Serratia marcescens; Exolipid; Fractal (Matsuyama, T. (61) 243)

Stability
Bacillus sp.; Membrane potential; Transmembrane pH gradient (Koyama, N. (61) 7)

Staphylococci
poly-β-Hydroxybutyric acid (Szewczyk, E. (61) 279)

Staphylococcus aureus
Extracellular protein; Gene expression (Coleman, G. (61) 247)

Endo-β-*N*-acetylglucosaminidase; Purification; Dye-ligand affinity chromatography (Sugai, M. (61) 267)

Staphylococcus epidermis
Fosfomycin; Plasmid; Antibiotic resistance (Etienne, J. (61) 133)

Streptomyces
DNA probe; Repeated sequences; Colony hybridization (Kuczek, K. (61) 257)

Streptomyces lividans
ppGpp; Thiopeptin; pIJ702 (Ochi, K. (61) 219)

***Streptomyces* plasmid**
essential region of replicon; vector construction (Petříček, M. (61) 109)

Tetrahydromethanopterin-b
Methanogenesis from methanol; Formaldehyde oxidation; *Methanosarcina barkeri*; Methanofuran-b (Mahlmann, A. (61) 115)

Thermostatic direct hemolysin
Vibrio parahaemolyticus; Mutant (Honda, T. (61) 95)

Thiopeptin
Streptomyces lividans; ppGpp; pIJ702 (Ochi, K. (61) 219)

Transformation
Bacteroides; Electroporation; Plasmids (Thomson, A.M. (61) 101)

Transmembrane pH gradient
Bacillus sp.; Membrane potential; Stability (Koyama, N. (61) 7)

Trehalose-6-phosphate synthases
Candida utilis; Protein phosphorylation; Enzyme inactivation (Vicente-Soler, J. (61) 273)

Tween 80
Electroporation; *Brevibacterium lactofermentum* (Haynes, J.A. (61) 329)

Ultrastructure
Autolysis; Cell wall surface; Plasma membrane; *Saccharomyces cerevisiae* (Takeo, K. (61) 297)

Urease
Cyanobacteria; *Anabaena doliolum*; Purification; Properties (Rai, A.K. (61) 319)

Urea-uptake
Anabaena doliolum; Cyanobacterium; Regulation (Singh, S. (61) 199)

Vector construction
Streptomyces plasmid; essential region of replicon (Petříček, M. (61) 109)

Vesicles
Porphyromonas gingivalis; Protease; Erythrocyte lysis; Haemagglutination (Shah, H.N. (61) 213)

Vh-rTDH
Vibrio hollisae; Hemolysin (Yoh, M. (61) 171)

Vibrio
Erythrocyte; *Vibrio vulnificus; Hemolysis; Hemolysin; Cytolysin* (Yamanaka, H. (61) 251)

Vibrio costicola
Moderately halophilic eubacteria; DNA homology (Gutiérrez, M.C. (61) 37)

Vibrio hollisae
Vh-rTDH; Hemolysin (Yoh, M. (61) 171)

Vibrio parahaemolyticus
Thermostatic direct hemolysin; Mutant (Honda, T. (61) 95)

Vibrio vulnificus
Erythrocyte; Vibrio; Hemolysis; Hemolysin; Cytolysin (Yamanaka, H. (61) 251)

Wood-rotting fungus
Lignin metabolism; Biphenyl structure; Aromatic ring fission; Quinone structure; *Coriolus versicolor* (Katayama, Y. (61) 307)

2,4-Xylenol
Pseudomonas putida; *p*-Cresol; Catabolic plasmid (Dean, H.F. (61) 153)

Yeast
Flocculation (Bielecki, S. (61) 189)

Yeasts
Polyamine auxotroph; Aminopropylcadaverine; Aminopropylhomospermidine (Hamana, K. (61) 231)